REMARKS

In the Office Action mailed April 20, 2005, claims 1, 3-12 and 14-27 (of which claims 1, 11, and 20 are independent) were rejected under 35 U.S.C. § 103(a), and claims 28-30 were allowed. Applicants gratefully thank the Examiner for the indication of the allowable claims.

After a careful review of the cited references, Applicants request reconsideration of the rejected claims in view of the following remarks.

CLAIM REJECTIONS

Claims 1, 3-12 and 14-27 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Rudrapatna, U.S. Patent Application Publication No. US 2002/0132600 (Rudrapatna) in view of Smith et al., U.S. Patent No. 6,006,075 (Smith). To establish a *prima facie* case of obviousness under § 103 the cited references must teach or suggest all the claim limitations. (MPEP § 2142).

Applicants submit that neither Rudrapatna nor Smith, separately or in combination, teach or suggest "identifying one of the plurality of antennae to transmit the wireless signal to the receiver based on a reliability of the one of the plurality of antennae, the reliability being determined from a probability of transmission of the wireless signal by the one of the plurality of antennae," as in claim 1 and similarly in claims 11 and 20.

Rudrapatna discloses an antenna array including circuitry coupled to the antennas to select and activate antennas in the array so as to operate them in a beam forming mode, a diversity mode or a MIMO mode. (Abstract). The circuitry determines characteristics of signals to be transmitted or received by the antenna array and, based on the determined characteristics, generates control signals which activate certain antennas in the array to cause them to operate in any one of the three modes. (Rudrapatna, ¶0012). Rudrapatna describes that the determination

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and routing of the signals can be done in either two ways. One way is for a signal source/control circuit to determine the type of signal (based on signal characteristics) to be transmitted or received and to generate control signals to set switches to certain positions thus routing the signals to be transmitted and/or received by certain antennas allowing the respective antennas to operate in either the MIMO, diversity or beam forming/steering modes or any combination thereof. (Rudrapatna, ¶0026). Another way is for the switches themselves to route the signals based on the characteristics (e.g., frequency content, amplitude, phase, code, time slot) of the signals. (Rudrapatna, ¶0026). Thus, Rudrapatna selects antennas to transmit or receive signals based on characteristics of the signals, or based on a desired transmission mode.

Rudrapatna does not teach or suggest "identifying one of the plurality of antennae to transmit the wireless signal to the receiver based on a reliability of the one of the plurality of antennae, the reliability being determined from a probability of transmission of the wireless signal by the one of the plurality of antennae," as in claim 1 and similarly in claims 11 and 20. The Examiner mentioned that Rudrapatna does not specifically teach reliability, but that Rudrapatna teaches identifying antennas based on an efficiency of one of the antennas, citing ¶0020, lines 10-12, ¶0030, lines 13-14 and ¶0031, lines 6-25. Applicants submit that these cited portions do not teach or suggest efficiency as contemplated by the Examiner. Rather, these sections describe placement of the antennas within the array (e.g., at distances of $\lambda/2$ apart). Efficiency is not mentioned in these sections.

The Examiner next contended that Smith makes up for the shortcomings of Rudrapatna because Smith discloses antenna selection and reliability, citing to column 11, lines 19-27, lines 33-38, lines 42-49 and lines 55-67 in Smith. (Office Action, p. 3, 4.20.05). Applicants respectfully disagree. Smith teaches selecting multiple antennas pursuant to a frequency hopping

scheme to create transmission space diversity for transmission of a communication signal. (Smith, Col. 7, lines 42-44). The sections cited by the Examiner in Smith teach that a switch is actuated through a selected pattern of positions, and tunable transmitter elements are tuned to modulate the communication signal upon a selected sequence of carriers. A controller determines the coherence bandwidth, and selected ones of the tunable transmitter elements are caused to be tuned to the frequencies of selected carriers according to the frequency hopping scheme. "The coherence bandwidth together with previous pairings of switch positions of the baseband switch and previous carriers upon which the communication signal has been transmitted are together determinative of selection of the switch position of the baseband switch and also, therefore, the carrier frequency channel upon which the communication signal is transmitted." (Smith, Col. 11, lines 55-67).

Smith does not teach or suggest "identifying one of the plurality of antennae to transmit the wireless signal to the receiver based on a reliability of the one of the plurality of antennae, the reliability being determined from a probability of transmission of the wireless signal by the one of the plurality of antennae," as in claim 1 and similarly in claims 11 and 20. Smith teaches that antennas at which a communication signal is transduced are selected responsive to the frequency of the carrier upon which the communication signal is to be transmitted. Thereby, Smith describes that synergistic benefits of both transmission space diversity and frequency diversity are provided. (Col. 5, lines 35-38). Smith later further reiterates that the "antenna elements from which the communication signal is transmitted are selected for each carrier selected pursuant to the frequency hopping scheme." (Col. 7, lines 42-44).

Contrary to the Examiner's assertions, Smith does not mention or suggest antenna selection based on a reliability of the antenna, and thus does not teach or suggest "identifying one

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of the plurality of antennae to transmit the wireless signal to the receiver based on a reliability of the one of the plurality of antennae, the reliability being determined from a probability of transmission of the wireless signal by the one of the plurality of antennae," as in claim 1 and similarly in claims 11 and 20.

Furthermore, since neither Rudrapatna nor Smith, separately or in combination, teach or suggest identifying one of the plurality of antennae to transmit the wireless signal based on a reliability of the antenna, each of these references also fails to teach the further limitation of the reliability of an antenna "determined from a probability of transmission of the wireless signal by the one of the plurality of antennae," as in claim 1 and similarly in claims 11 and 20. In fact, neither reference even mentions quantifying a value for a reliability of an antenna.

Since neither Rudrapatna nor Smith, separately or in combination, teach or suggest all claim limitations of claims 1, 11 and 20, the combination of Rudrapatna and Smith does not render the invention recited in claims 1, 3-12 and 14-27 obvious.

SUMMARY

Applicants respectively submit that in view of the remarks above, all of the pending claims are in condition for allowance. Applicants therefore respectfully request such action. The Examiner is invited to call the undersigned at (312) 913-3331 with any questions or comments.

Respectfully submitted,

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